# APPENDIX

# GENERAL SETS OF EVALUATION STATEMENTS

# EVALUATION STATEMENTS FOR THE BASIC BUILDING SYSTEM

Address the following evaluation statements, marking each either true (T) or false (F). Statements that are found to be true identify issues that are acceptable according to the criteria of these regulations; statements that are found to be false identify issues that need investigation. For guidance in the investigation, refer to the regulation section indicated in parentheses at the end of the statement.

## BUILDING SYSTEM

**T** **F** LOAD PATH: The structure contains a complete load path for seismic force effects from any horizontal direction that serves to transfer the inertial forces from the mass to the foundation. (Section 3.1)

**T** **F** REDUNDANCY: The structure will remain laterally stable after the failure of any single element. (Section 3.2)

## CONFIGURATION

**T** **F** **N/A** WEAK STORY: Visual observation or a Quick Check indicates that there are no significant strength discontinuities in any of the vertical elements in the lateral-force-resisting system; the story strength at any story is not less than 80 percent of the strength of the story above. (Section 3.3.1)

**T** **F** **N/A** SOFT STORY: Visual observation or a Quick Check indicates that there are no significant stiffness discontinuities in any of the vertical elements in the lateral-force-resisting system; the lateral stiffness of a story is not less than 70 percent of that in the story above or less than 80 percent of the average stiffness of the three stories above. (Section 3.3.2)

**T** **F** **N/A** GEOMETRY: There are no significant geometrical irregularities; there are no setbacks (i.e., no changes in horizontal dimension of the lateral-force-resisting system of more than 30 percent in a story relative to the adjacent stories). (Section 3.3.3)

**T** **F** **N/A** MASS: There are no significant mass irregularities; there is no change of effective mass of more than 50 percent from one story to the next, excluding light roofs. (Section 3.3.4)

**T** **F** **N/A** VERTICAL DISCONTINUITIES: All shear walls, infilled walls, and frames are continuous to the foundation. (Section 3.3.5)

**T** **F** TORSION: The lateral force resisting elements form a well balanced system that is not subject to significant torsion. Significant torsion will be taken as any condition where the distance between the story center of rigidity and the story center of mass is greater than 20 percent of the width of the structure in either major plan dimension. (Section 3.3.6)

## ADJACENT BUILDINGS

**T** **F** ADJACENT BUILDINGS: There is no immediately adjacent structure that is less than half as tall or has floors/levels that do not match those of the building being evaluated. A neighboring structure is considered to be "immediately adjacent" if it is within 2 inches times the number of stories away from the building being evaluated. (Section 3.4)

**DEFLECTION INCOMPATIBILITY**

**T** **F** DEFLECTION INCOMPATIBILITY: Column and Beam Assemblies that are not part of the lateral force-resisting system (i.e., gravity load-resisting frames) are capable of accommodating imposed building drifts, including amplified drift caused by diaphragm deflections, without loss of vertical load carrying capacity. (Section 3.5)

**SHORT ACAPTIVE@ COLUMNS**

**T** **F** SHORT ACAPTIVE COLUMNS: There are no columns with height-to-depth ratios less than 75% of the nominal height-to-depth ratios of the typical columns at that level. (Section 3.6)

**MATERIALS AND CONDITIONS**

**T** **F** **N/A** DETERIORATION OF WOOD: None of the wood members shows signs of decay, shrinkage, splitting, fire damage, or sagging and none of the metal accessories is deteriorated, broken, or loose. (Section 3.7.1)

**T** **F** **N/A** OVERDRIVEN NAILS: There is no evidence of overdriven nails in the shear walls or diaphragms. (Section 3.7.2)

**T** **F** **N/A** DETERIORATION OF STEEL: There is no significant visible rusting, corrosion, or other deterioration in any of the steel elements in the vertical or lateral-force-resisting systems. (Section 3.7.3)

**T** **F** **N/A** DETERIORATION OF CONCRETE: There is no visible deterioration of concrete or reinforcing steel in any of the frame elements. (Section 3.7.4)

**T** **F** **N/A** POST-TENSIONING ANCHORS: There is no evidence of corrosion or spalling in the vicinity of post-tensioning or end fittings. Coil anchors have not been used. (Section 3.7.5)

**T** **F** **N/A** CONCRETE WALL CRACKS: All diagonal cracks in the wall elements are 1.0 mm or less in width, are in isolated locations, and do not form an X pattern. (Section 3.7.6)

**T** **F** **N/A** CRACKS IN BOUNDARY COLUMNS: There are no diagonal cracks wider than 1.0mm in concrete columns that encase the masonry infills. (Section 3.7.7)

**T** **F** **N/A** PRECAST CONCRETE WALLS: There is no significant visible deterioration of concrete or reinforcing steel or evidence of distress, especially at the connections. (Section 3.7.8)

**T** **F** **N/A** MASONRY JOINTS: The mortar cannot be easily scraped away from the joints by hand with a metal tool, and there are no significant areas of eroded mortar. (Section 3.7.9)

| | | | |
|---|---|---|---|
| **T** | **F** | **N/A** | MASONRY UNITS: There is no visible deterioration of large areas of masonry units. (Section 3.7.10) |
| **T** | **F** | **N/A** | CRACKS IN INFILL WALLS: There are no diagonal cracks in the infilled walls that extend throughout a panel or are greater than 1.0 mm wide. (Section 3.7.11) |

# EVALUATION STATEMENTS FOR VERTICAL SYSTEMS RESISTING LATERAL FORCES

Address the following evaluation statements, marking each either true (T) or false (F). Statements that are found to be true identify issues that are acceptable according to the criteria of these regulations; statements that are found to be false identify issues that need investigation. For guidance in the investigation, refer to the section indicated in parentheses at the end of the statement.

## MOMENT FRAMES

### Frames with Infill Walls

**T** **F** **N/A** INTERFERING WALLS: All infill walls placed in the moment frames are isolated from the structural elements. (Section 4.1.1)

### Steel Moment Frames

**T** **F** **N/A** DRIFT CHECK: The building satisfies the Quick Check of the frame drift. (Section 4.2.1)

**T** **F** **N/A** COMPACT MEMBERS: All moment frame elements meet the compact section requirements of the basic AISC documents. (Section 4.2.2)

**T** **F** **N/A** BEAM PENETRATIONS: All openings in frame-beam webs have a depth less than 1/4 of the beam depth and are located in the center half of the frame beams. (Section 4.2.3)

**T** **F** **N/A** MOMENT CONNECTIONS: All beam-column connections in the lateral force resisting moment frame have full-penetration flange welds and a bolted or welded web connection. (Section 4.2.4)

**T** **F** **N/A** COLUMN SPLICES: All column splice details of the moment resisting frames include connection of both flanges and the web. (Section 4.2.5)

**T** **F** **N/A** JOINT WEBS: All web thicknesses within joints of moment resisting frames meet the AISC criteria for web shear. (Section 4.2.6)

**T** **F** **N/A** GIRDER FLANGE CONTINUITY PLATES: There are girder flange continuity plates at joints. (Section 4.2.7)

**T** **F** **N/A** STRONG COLUMN/WEAK BEAM: At least one half of the joints are strong column/weak beam (33 percent on every line of moment frame). Roof joints need not be considered. (Section 4.2.8)

**T** **F** **N/A** OUT-OF-PLANE BRACING: Beam-column joints are braced out-of-plane. (Section 4.2.9)

**T** **F** **N/A** PRE-NORTHRIDGE EARTHQUAKE WELDED MOMENT FRAME JOINTS: Welded steel moment frame beam-column joints are designed and constructed in accordance with recommendations in FEMA 267, Interim Guidelines: Evaluation, Repair, Modification, and Design of Welded Steel Moment Frame Structures, August 1995. (Section 4.2.10)

**Concrete Moment Frames**

**T** **F** **N/A** SHEARING STRESS CHECK: The building satisfies the Quick Check of the average shearing stress in the columns. (Section 4.3.1)

**T** **F** **N/A** DRIFT CHECK: The building satisfies the Quick Check of story drift. (Section 4.3.2)

**T** **F** **N/A** PRESTRESSED FRAME ELEMENTS: The lateral-load-resisting frames do not include any prestressed or post-tensioned elements. (Section 4.3.3)

**T** **F** **N/A** JOINT ECCENTRICITY: There are no eccentricities larger than 20 percent of the smallest column plan dimension between girder and column centerlines. (Section 4.3.4)

**T** **F** **N/A** NO SHEAR FAILURES: The shear capacity of frame members is greater than the moment capacity. (Section 4.3.5)

**T** **F** **N/A** STRONG COLUMN/WEAK BEAM: The moment capacity of the columns appears to be greater than that of the beams. (Section 4.3.6)

**T** **F** **N/A** STIRRUP AND TIE HOOKS: The beam stirrups and column ties are anchored into the member cores with hooks of 135 degrees or more. (Section 4.3.7)

**T** **F** **N/A** COLUMN-TIE SPACING: Frame columns have ties spaced at $d/4$ or less throughout their length and at 8 $d_b$ or less at all potential plastic hinge regions. (Section 4.3.8)

**T** **F** **N/A** COLUMN-BAR SPLICES: All column bar lap splice lengths are greater than 35 $d_b$ long and are enclosed by ties spaced at 8 $d_b$ or less. (Section 4.3.9)

**T** **F** **N/A** BEAM BARS: At least two longitudinal top and two longitudinal bottom bars extend continuously throughout the length of each frame beam. At least 25 percent of the steel provided at the joints for either positive or negative moment is continuous throughout the members. (Section 4.3.10)

**T** **F** **N/A** BEAM-BAR SPLICES: The lap splices for the longitudinal beam reinforcing are located within the center half of the member lengths or in the vicinity of potential plastic hinges. (Section 4.3.11)

**T** **F** **N/A** STIRRUP SPACING: All beams have stirrups spaced at $d/2$ or less throughout their length and at 8 $d_b$ or less at potential hinge locations. (Section 4.3.12)

**T** **F** **N/A** BEAM TRUSS BARS: Bent-up longitudinal steel is not used for shear reinforcement. (Section 4.3.13)

**T** **F** **N/A** JOINT REINFORCING: Column ties extend at their typical spacing through all beam-column joints at exterior columns. (Section 4.3.14)

**T** **F** **N/A** FLAT SLAB FRAMES: The system is not a frame consisting of a flat slab/plate without beams. (Section 4.3.15)

### Precast Concrete Moment Frames

**T** **F** **N/A** PRECAST FRAMES: The lateral loads are not resisted by precast concrete frame elements. (Section 4.4.1)

**T** **F** **N/A** PRECAST CONNECTIONS: For buildings with concrete shear walls, the connection between precast frame elements such as chords, ties, and collectors in the lateral-force-resisting system can develop the capacity of the connected members. (Section 4.4.2)

### Frames Not Part of the Lateral-Force-Resisting System

**T** **F** **N/A** COMPLETE FRAMES: The steel or concrete frames form a complete vertical load carrying system. (Section 4.5.1)

## SHEAR WALLS

### Concrete Shear Walls

**T** **F** **N/A** SHEARING STRESS CHECK: The building satisfies the Quick Check of the shearing stress in the shear walls. (Section 5.1.1)

**T** **F** **N/A** OVERTURNING: All shear walls have $h_w/l_w$ ratios less than 4 to 1. (Section 5.1.2)

**T** **F** **N/A** COUPLING BEAMS: The stirrups in all coupling beams are spaced at $d/2$ or less and are anchored into the core with hooks of 135 degrees or more. (Section 5.1.3)

**T** **F** **N/A** COLUMN SPLICES: Steel column splice details in shear wall boundary elements can develop the tensile strength of the column. (Section 5.1.4)

**T** **F** **N/A** WALL CONNECTIONS: There is positive connection between the shear walls and the steel beams and columns. (Section 5.1.5)

**T** **F** **N/A** CONFINEMENT REINFORCING: For shear walls with $h_w/l_w$ greater than 2.0, the boundary elements are confined with spirals or ties with spacing less then 8 $d_b$. (Section 5.1.6)

**T** **F** **N/A** REINFORCING STEEL: The area of reinforcing steel for concrete walls is greater than 0.0025 times the gross area of the wall along both the longitudinal and transverse axes and the maximum spacing of reinforcing steel is 18 inches. (Section 5.1.7)

**T** **F** **N/A** REINFORCING AT OPENINGS: There is special wall reinforcement around all openings. (Section 5.1.8)

### Precast Concrete Shear Walls

**T** **F** **N/A** PANEL-TO-PANEL CONNECTIONS: Adjacent wall panels are not connected by welded steel inserts. (Section 5.2.1)

**T** **F** **N/A** WALL OPENINGS: Openings constitute less than 75 percent of the length of any perimeter wall with the wall piers having $h_w/l_w$ ratios of less than 2.0. (Section 5.2.2)

**T** **F** **N/A** COLLECTORS: Wall elements with openings larger than a typical panel at a building corner are connected to the remainder of the wall with collector reinforcing. (Section 5.2.3)

### Reinforced Masonry Shear Walls

**T** **F** **N/A** SHEARING STRESS CHECK: The building satisfies the Quick Check of the shearing stress in the reinforced masonry shear walls. (Section 5.3.1)

**T** **F** **N/A** REINFORCING: The total vertical and horizontal reinforcing steel in reinforced masonry walls is greater than 0.002 times the gross area of the wall with a minimum of 0.0007 in either of the two directions; the spacing of reinforcing steel is less than 48 inches; and all vertical bars extend to the top of the walls. (Section 5.3.2)

**T** **F** **N/A** REINFORCING AT OPENINGS: All wall openings that interrupt rebar have trim reinforcing on all sides. (Section 5.3.3)

### Unreinforced Masonry Shear Walls

**T** **F** **N/A** SHEARING STRESS CHECK: The building satisfies the Quick Check of the shearing stress in the unreinforced masonry shear walls. (Section 5.4.1)

**T** **F** **N/A** MASONRY LAY-UP: Filled collar joints of multiwythe masonry walls have negligible voids. (Section 5.4.2)

### Infill Walls in Frames

**T** **F** **N/A** PROPORTIONS: The height/thickness ratio of the wall panels is as follows: (Section 5.5.1)

| | |
|---|---|
| One-story building | $h_w/t < 14$ |
| Multistory building | |
| Top story | $h_w/t < 9$ |
| Other stories | $h_w/t < 20$ |

**T** **F** **N/A** SOLID WALLS: The infill walls are not of cavity construction. (Section 5.5.2)

**T** **F** **N/A** CONTINUOUS WALLS: The infill walls are continuous to the soffits of the frame beams. (Section 5.5.3)

**T** **F** **N/A** WALL CONNECTIONS: All infill panels are constructed to encompass the frames around their entire perimeter. (Section 5.5.4)

### Walls in Wood-Frame Buildings

**T** **F** **N/A** SHEARING STRESS CHECK: The building satisfies the Quick Check of the shearing stress in the wood shear walls. (Section 5.6.1)

**T** **F** **N/A** OPENINGS: Walls with garage doors or other large openings are braced with plywood shear walls or are supported by adjacent construction through substantial positive ties. (Section 5.6.2)

**T** **F** **N/A** WALL REQUIREMENTS: All walls supporting tributary area of 24 to 100 square feet per foot of wall are plywood sheathed with proper nailing or rod braced and have a height-to-depth (*H/D*) ratio of 1 to 1 or less or have properly detailed and constructed hold downs. (Section 5.6.3)

**T** **F** **N/A** CRIPPLE WALLS: All exterior cripple walls below the first floor level are braced to the foundation with shear elements. (Section 5.6.4)

**T** **F** **N/A** NARROW SHEAR WALLS: Narrow wood shear walls with an aspect ratio greater than 2 to 1 do not resist forces developed in the building. (Section 5.6.5)

**T** **F** **N/A** STUCCO (EXTERIOR PLASTER) SHEAR WALLS: Multi-story buildings do not rely on exterior stucco walls as the primary lateral-force-resisting system. (Section 5.6.6)

**T** **F** **N/A** PLASTER OR GYPSUM WALLBOARD SHEAR WALLS: Interior plaster or gypsum wallboard is not being used for shear walls in buildings over one story in height. (Section 5.6.4)

## BRACED FRAMES

### Concentric Braced Frames

**T** **F** **N/A** STRESS CHECK: The building satisfies the Quick Check of the stress in the diagonals. (Section 6.1.1)

**T** **F** **N/A** STIFFNESS OF DIAGONALS: All diagonal elements required to carry compression have *Kl/r* ratios less than 120. (Section 6.1.2)

**T** **F** **N/A** TENSION-ONLY BRACES: Tension-only braces are not used as the primary diagonal bracing elements in structures over two stories in height. (Section 6.1.3)

**T** **F** **N/A** CHEVRON BRACING: The bracing system does not include chevron, V-, or K-braced bays. (Section 6.1.4)

**T** **F** **N/A** CONCENTRIC JOINTS: All the diagonal braces frame into the beam-column joints concentrically. (Section 6.1.5)

**T** **F** **N/A** CONNECTION STRENGTH: All the brace connections are able to develop the yield capacity of the diagonals. (Section 6.1.6)

**T** **F** **N/A** COLUMN SPLICES: All column splice details of the braced frames can develop the column yield capacity. (Section 6.1.7)

**T** **F** **N/A** CONCRETE BRACED FRAMES: None of the braces in the framing system are of reinforced concrete construction. (Section 6.1.8)

**Eccentric Braced Frames**

**T** **F** **N/A** LINK BEAM LOCATION: The link beams are not connected to the columns. (Section 6.2.1)

# EVALUATION STATEMENTS FOR DIAPHRAGMS

Address the following evaluation statements, marking each either true (T) or false (F). Statements that are found to be true identify issues that are acceptable according to the criteria of these regulations; statements that are found to be false identify issues that need investigation. For guidance in the investigation, refer to the section indicated in parentheses at the end of the statement.

**T F N/A** PLAN IRREGULARITIES: There is significant tensile capacity at re-entrant corners or other locations of plan irregularities. (Section 7.1.1)

**T F N/A** CROSS TIES: There are continuous cross ties between diaphragm chords. (Section 7.1.2)

**T F N/A** REINFORCING AT OPENINGS: There is reinforcing around all diaphragm openings larger than 50 percent of the building width in either major plan dimension. (Section 7.1.3)

**T F N/A** OPENINGS AT SHEAR WALLS: Diaphragm openings immediately adjacent to the shear walls constitute less than 25 percent of the wall length, and the available length appears sufficient. (Section 7.1.4)

**T F N/A** OPENINGS AT BRACED FRAMES: Diaphragm openings immediately adjacent to the braced frames extend less than 25 percent of the length of the bracing. (Section 7.1.5)

**T F N/A** OPENINGS AT EXTERIOR MASONRY SHEAR WALLS: Diaphragm openings immediately adjacent to exterior masonry walls are no more than 8 feet long. (Section 7.1.6)

## WOOD DIAPHRAGMS

**T F N/A** SHEATHING: None of the diaphragms consist of straight sheathing or have span/depth ratios greater than 2 to 1. (Section 7.2.1)

**T F N/A** SPANS: All diaphragms with spans greater than 24 feet have plywood or diagonal sheathing. Structures in building type 2 may have rod-braced systems. (Section 7.2.2)

**T F N/A** UNBLOCKED DIAPHRAGMS: Unblocked wood panel diaphragms consist of horizontal spans of less than 40 feet and have span/depth ratios less than or equal to 3 to 1. (Section 7.2.3)

**T F N/A** SPAN/DEPTH RATIO: If the span/depth ratios of wood diaphragms are greater than 3 to 1, there are nonstructural walls connected to all diaphragm levels at less than 40-foot spacing. (Section 7.2.4)

**T** **F** **N/A** DIAPHRAGM CONTINUITY: None of the diaphragms are composed of split-level floors or, in wood commercial or industrial buildings, have expansion joints. (Section 7.2.5)

**T** **F** **N/A** CHORD CONTINUITY: All chord elements are continuous, regardless of changes in roof elevation. (Section 7.2.6)

**METAL DECK DIAPHRAGMS**

**T** **F** **N/A** DECK TOPPING: All metal deck roofs have a reinforced concrete topping slab. (Section 7.3.1)

**T** **F** **N/A** UNTOPPED DIAPHRAGMS: Untopped metal deck diaphragms consist of horizontal spans of less than 40 feet and have span/depth ratios less than or equal to 3 to 1. (Section 7.3.2)

**PRECAST CONCRETE DIAPHRAGMS**

**T** **F** **N/A** TOPPING SLAB: Precast concrete diaphragm elements are interconnected by a reinforced concrete topping slab. (Section 7.4.1)

**T** **F** **N/A** CONTINUITY OF TOPPING SLAB: The topping slab continues uninterrupted through the interior walls and into the exterior walls or is provided with dowels with a total area equal to the topping slab reinforcing. (Section 7.4.2)

**HORIZONTAL BRACING**

**T** **F** **N/A** HORIZONTAL BRACING. Horizontal bracing forms a complete system of adequate capacity. (Section 7.5.1)

**OTHER SYSTEMS**

**T** **F** **N/A** OTHER SYSTEMS: The diaphragm systems does not include thin planks, and/or toppings of gypsum. (Section 7.6.1)

# EVALUATION STATEMENTS FOR STRUCTURAL CONNECTIONS

Address the following evaluation statements, marking each either true (T) or false (F). Statements that are found to be true identify issues that are acceptable according to the criteria of these regulations; statements that are found to be false identify issues that need investigation. For guidance in the investigation, refer to the section indicated in parentheses at the end of the statement.

### ANCHORAGE FOR NORMAL FORCES

**T** **F** **N/A** WOOD LEDGERS: The connection between the wall panels and the diaphragm does not induce cross-grain bending or tension in the wood ledgers. (Section 8.2.1)

**T** **F** **N/A** WALL ANCHORAGE: The exterior concrete or masonry walls are anchored to each of the diaphragm levels for out-of-plane loads. (Section 8.2.2)

**T** **F** **N/A** MASONRY WALL ANCHORS: Wall anchorage connections are steel anchors or straps that are developed into the diaphragm. (Section 8.2.3)

**T** **F** **N/A** ANCHOR SPACING: The anchors from the floor and roof systems into exterior masonry walls are spaced at 4 feet or less. (Section 8.2.4)

**T** **F** **N/A** TILT-UP WALLS: Precast bearing walls are connected to the diaphragms for out-of-plane loads; steel anchors or straps are embedded in the walls and developed into the diaphragm. (Section 8.2.5)

**T** **F** **N/A** PANEL-ROOF CONNECTION: There are at least two anchors from each precast wall panel into the diaphragm elements. (Section 8.2.6)

**T** **F** **N/A** INADEQUATE STIFFNESS OF WALL ANCHORS: Anchors of walls to wood structural elements are installed taut and are stiff enough to prevent movement between the wall and roof. (Section 8.2.7)

### SHEAR TRANSFER

**T** **F** **N/A** TRANSFER TO SHEAR WALLS: Diaphragms are reinforced and connected for transfer of loads to the shear walls. (Section 8.3.1)

**T** **F** **N/A** TRANSFER TO STEEL FRAMES: The method used to transfer diaphragm shears to the steel frames is approved for use under lateral loads. (Section 8.3.2)

**T** **F** **N/A** TOPPING SLAB TO WALLS AND FRAMES: Reinforced concrete topping slabs that interconnect the precast concrete diaphragm elements are doweled into the shear wall or frame elements. (Section 8.3.3)

### VERTICAL COMPONENTS

| | | | |
|---|---|---|---|
| **T** | **F** | **N/A** | STEEL COLUMNS: The columns in the lateral force resisting frames are substantially anchored to the building foundation. (Section 8.4.1) |
| **T** | **F** | **N/A** | CONCRETE COLUMNS: All longitudinal column steel is doweled into the foundation. (Section 8.4.2) |
| **T** | **F** | **N/A** | WOOD POSTS: There is positive connection of wood posts to the foundation and the elements being supported. (Section 8.4.3) |
| **T** | **F** | **N/A** | WALL REINFORCING: All vertical wall reinforcing is doweled into the foundation. (Section 8.4.4) |
| **T** | **F** | **N/A** | SHEAR-WALL-BOUNDARY COLUMNS: The shear wall columns are substantially anchored to the building foundation. (Section 8.4.5) |
| **T** | **F** | **N/A** | WALL PANELS: The wall panels are connected to the foundation and/or ground floor slab with dowels equal to the vertical panel reinforcing. (Section 8.4.6) |
| **T** | **F** | **N/A** | WOOD SILLS: All wall elements are bolted to the foundation sill at 6-foot spacing or less with proper edge distance for concrete and wood. (Section 8.4.7) |

**INTERCONNECTION OF ELEMENTS**

| | | | |
|---|---|---|---|
| **T** | **F** | **N/A** | GIRDERS: Girders are supported by walls or pilasters have special ties to secure the anchor bolts. (Section 8.5.1) |
| **T** | **F** | **N/A** | CORBEL BEARING: If the frame girders bear on column corbels, the length of bearing is greater than 3 inches. (Section 8.5.2) |
| **T** | **F** | **N/A** | CORBEL CONNECTIONS: The frame girders are not supported on corbels with welded elements. (Section 8.5.3) |

**ROOF DECKING**

| | | | |
|---|---|---|---|
| **T** | **F** | **N/A** | LIGHT-GAGE METAL, PLASTIC, OR CEMENTITIOUS ROOF PANELS: All light-gage metal, plastic, or cementitious roof panels are properly connected to the roof framing at not more than 12 inches on center. (Section 8.6.1) |
| **T** | **F** | **N/A** | WALL PANELS: All wall panels (metal, fiberglass, or cementitious) are properly connected to the wall framing. (Section 8.6.2) |

# EVALUATION STATEMENTS FOR FOUNDATIONS AND GEOLOGIC SITE HAZARDS

Address the following evaluation statements, marking each either true (T) or false (F). Statements that are found to be true identify issues that are acceptable according to the criteria of these regulations; statements that are found to be false identify issues that need investigation. For guidance in the investigations, refer to the section indicated in parentheses at the end of the statement.

## CONDITION OF FOUNDATIONS

**T** **F** FOUNDATION PERFORMANCE: The structure does not show evidence of excessive foundation movement such as settlement or heave that would affect its integrity or strength. (Section 9.1.1)

**T** **F** DETERIORATION: There is no evidence that foundation elements have deteriorated due to corrosion, sulphate attack, material breakdown, or other reasons in a manner that would affect the integrity or strength of the structure. (Section 9.1.2)

## CAPACITY OF FOUNDATIONS

**T** **F** OVERTURNING: The ratio of the effective horizontal dimension, at the foundation level of the seismic resisting system, to the building height (base/height) exceeds $1.4A_v$. (Section 9.2.1)

**T** **F** TIES BETWEEN FOUNDATION ELEMENTS: Foundation ties adequate for seismic forces exist where footings, piles, and piers are not restrained by beams, slabs, or competent soils or rock. (Section 9.2.2)

**T** **F** **N/A** LOAD PATH AT PILE CAPS: The pile caps are capable of transferring overturning and lateral forces between the structure and individual piles in the pile cap. (Section 9.2.3)

**T** **F** **N/A** LATERAL FORCE ON DEEP FOUNDATIONS: Piles and piers are capable of transferring the lateral forces between the structure and the soil. (Section 9.2.4)

**T** **F** **N/A** POLE BUILDINGS: Pole foundations have adequate embedment. (Section 9.2.5)

**T** **F** SLOPING SITES: The grade difference from one side of the building to another does not exceed one-half story. (Section 9.2.6)

## GEOLOGIC SITE HAZARDS

**T** **F** **N/A** LIQUEFACTION: Liquefaction susceptible, saturated, loose granular soils that could jeopardize the building's seismic performance do not exist in the foundation soils at depths within 50 feet under the building. (Section 9.3.1)

| | | |
|---|---|---|
| **T** | **F** | SLOPE FAILURE: The building site is sufficiently remote from potential earthquake-induced slope failures or rockfalls to be unaffected by such failures or is capable of accommodating small predicted movements without failure. (Section 9.3.2) |
| **T** | **F** | SURFACE FAULT RUPTURE: Surface fault rupture and surface displacement at the building site is not anticipated. (Section 9.3.3) |

# EVALUATION STATEMENTS FOR ELEMENTS THAT ARE NOT PART OF THE LATERAL FORCE RESISTING SYSTEM

Address the following evaluation statements, marking each either true (T) or false (F). Statements that are found to be true identify issues that are acceptable according to the criteria of these regulations; statements that are found to be false identify issues that need investigation. For guidance in the investigation, refer to the section indicated in parentheses after the headings.

## NON STRUCTURAL WALLS

### Partitions

**T** **F** **N/A** MASONRY PARTITIONS: There are no unbraced unreinforced masonry or hollow clay tile partitions in critical care areas, clinical laboratory service spaces, pharmaceutical service spaces, radiological service spaces, and central and sterile supply areas, exit corridors, elevator shafts, or stairwells. (Sec. 10.1.1.1)

**T** **F** **N/A** STRUCTURAL SEPARATIONS: At structural separations, partitions in exit corridors have seismic or control joints. (Sec 10.1.1.2)

**T** **F** **N/A** PARTITION BRACING: In exit corridors, the tops of partitions that only extend to the ceiling line have lateral bracing. (Section 10.1.1.3)

### Cladding and Veneer

**T** **F** **N/A** MASONRY VENEER: Masonry veneer is connected to the back-up with corrosion-resistant ties spaced 24 inches on center maximum with at least one tie for every 2-2/3 square feet. (Section 10.1.2.1)

**T** **F** **N/A** CLADDING PANELS IN MOMENT FRAME BUILDINGS: For moment frame buildings of steel or concrete, panels are isolated from the structural frame to absorb predicted inter-story drift without collapse. (Section 10.1.2.2)

**T** **F** **N/A** CLADDING PANEL CONNECTIONS: Where bearing connections are required, there are at least two bearing connections for each cladding panel, and there are at least four connections for each cladding panel capable of resisting out-of-plane forces. (Section 10.1.2.3)

**T** **F** **N/A** CLADDING PANEL CONDITION: Cladding panel connections appear to be installed properly. No connection element is severely deteriorated or corroded. There is no cracking in the panel materials indicative of substantial structural distress. There is no substantial damage to exterior cladding due to water leakage. There is no substantial damage to exterior wall cladding due to temperature movements. (Section 10.1.2.4)

### Metal Stud Back-up Systems

**T** **F** **N/A** METAL STUD BACK-UP SYSTEMS, GENERAL: Additional steel studs frame window and door openings. Corrosion of veneer ties, tie screws, studs, and stud

tracks is minimal. Stud tracks are adequately fastened to the structural frame. (Section 10.1.3.1)

**T** **F** **N/A** MASONRY VENEER WITH STUD BACK-UP: Masonry veneer more than 30 feet above the ground is supported by shelf angles or other elements at each floor level. Masonry veneer is adequately anchored to the back-up at locations of through-wall flashing. Masonry veneer is connected to the back-up with corrosion-resistant ties spaced 24 inches on center maximum and with at least one tie for every 2-2/3 square feet. (Section 10.1.3.2)

**Masonry Veneer with Concrete Block Back-up**

**T** **F** **N/A** MASONRY VENEER WITH CONCRETE BLOCK BACK-UP, GENERAL: The concrete block back-up qualifies as reinforced masonry. (Section 10.1.4.1)

**T** **F** **N/A** MASONRY VENEER SUPPORT: Masonry veneer more than 30 feet above the ground is supported by shelf angles or other elements at each floor level. Masonry veneer is adequately anchored to the back-up at locations of through-wall flashing. Masonry veneer is connected to the back-up with corrosion-resistant ties spaced 24 inches on center maximum and with at least one tie for every 2-2/3 square feet. The concrete block back-up is positively anchored to the structural frame at 4 feet maximum intervals along the floors and roofs. (Section 10.1.4.2)

**Other Veneer/panel Systems**

**T** **F** **N/A** THIN STONE VENEER PANELS: Stone anchorages are adequate for computed loads. (Section 10.1.5.1)

**T** **F** **N/A** WOOD/AGGREGATE PANELS: There is no visible deterioration of screws or wood at panel attachment points. (Section 10.1.5.2)

**Parapets, Cornices, Ornamentation, and Appendages**

**T** **F** **N/A** PARAPETS, CORNICES, ORNAMENTATION, AND APPENDAGES: There are no laterally unsupported unreinforced masonry parapets or cornices above the highest anchorage level with height/thickness ratios greater than 1.5. Concrete parapets with height/thickness ratios greater than 1.5 have vertical reinforcement. Cornices, parapets, signs, and other appendages that extend above the highest anchorage level or cantilever from exterior wall faces and other exterior wall ornamentation are reinforced and well anchored to the structural system. (Section 10.1.6)

**T** **F** **N/A** MEANS OF EGRESS: Canopies are anchored and braced to prevent collapse and blockage of building exits. (Section 10.1.7)